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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,129	12/20/2001	Christine J. Landry-Coltrain	83466LMB	2382

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EXAMINER

SCHWARTZ, PAMELA R

ART UNIT

PAPER NUMBER

1774

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/028,129	Applicant(s) LANDRY-COLTRAIN ET AL.	
	Examiner Pamela R. Schwartz	Art Unit 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/23/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
 4a) Of the above claim(s) 1-20, 47 and 52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-46, 48-51, 53 and 54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-54 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

1. The election of species requirement is withdrawn to the extent that it separates claims to a single recording layer from claims including multiple recording layers.

Therefore, claims 21-46, 48-51, 53 and 54 are now elected.

2. Claims 21, 22, 25, 49 and 50 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 and 1-9 of U.S. Patent No. 6,528,147 and 6,475,602 respectively for reasons of record and for reasons given below. Although applicants indicated that the response included an argument related to this rejection, the examiner was unable to identify an argument in applicants' response that was related. In addition, although applicants state that they have included a terminal disclaimer directed to these patents, none was found in the file. Therefore, the rejection has been repeated.

3. Claims 21-46, 48-51, 53 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (Japanese Kokai Patent Application No. Hei 7[1995]-137432) for reasons of record and for reasons given below. With respect to claims directed to inclusion of a layer comprising particles of mean diameter of greater than 0.5 micrometers, there are no limitations in these claims that distinguish one layer from the other, i.e., the layers may have the same composition. In addition, while claims 44 and 45 set forth thicknesses for these layers, the thickness limitations are met by subdividing the layer of the prior art. There are no claimed compositional or structural features to distinguish applicants' two layers from a single layer. In the absence of such features, these claims are obvious over Maeda et al. With respect to the limitations directed to particles having various mean diameters of greater than and/or less than 0.5

microns, as set forth in claim 29, the particles may be considered "a component of a system." This language is interpreted as indicating that the particles are components for a larger system of particles. Therefore, the particles of Maeda et al. may be subdivided into various components, some with mean particle diameters greater than 0.5 microns and others with mean particle diameters less than 0.5 microns.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21, 22 and 25 rejected under 35 U.S.C. 102(b) as being anticipated by Okumura et al. (5,360,780). The reference discloses an image-receiving sheet for thermal transfer printing comprising an intermediate layer and an image receiving layer (see the abstract). The intermediate layer contains thermoplastic resin fine particle aggregates some of which are polyester. The aggregates may also be present in the image-receiving layer. The particle aggregates are in the size range of 0.2 to 20 microns. The particles are coated with binder which may be polyvinyl alcohol. (see col. 9, lines 7-40).

5. Claims 21, 22, 25, 29, 31, 32, 37, 39-46, 49, 50, 53 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura et al. (5360780) for reasons set forth above and for the following reasons. Claims 29, 31 and 32 are rejected for reasons explained with respect to Maeda et al. These claims do not require bimodal particle distributions and modes above and below 0.5 microns are inherently present in

the particles if the average particle size is near 0.5 microns. Claim 37 is also rejected on the same basis of Maeda et al., i.e. one of ordinary skill in the art would have found it obvious to determine reaction conditions. With respect to the claims directed to two layers including particles, the particles of the reference may be present in the intermediate and ink-receiving layers and modes above and below 0.5 microns are inherently present in the particles if the average particle size is near 0.5 microns. Layer thicknesses and/or coating weights are set forth at col. 9, line 63 to col. 10, line 6 and col. 10, line 50-56. It would have been obvious to one of ordinary skill in the art, with the guidance set forth in the reference, to determine coating thicknesses in order to obtain desired ink absorption properties and coating characteristics. Support materials are set forth at col. 13, lines 59-64.

6. Applicant's arguments filed February 23, 2004 have been fully considered but they are not persuasive. Applicants argue that "Maeda et al. fails to mention the use of particles of diameter less than 0.5 micrometers...". However, Maeda et al. disclose use of particles with mean diameter of 0.5 microns. Such particles must inherently include particles of diameter less than 0.5 microns and may include a majority of particles of diameter less than 0.5 microns since the mean is merely an average. The mere fact that Maeda et al. does not discuss gloss does not overcome the rejection. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Maeda et al. states that if the particles are too small, binding of the particles may be difficult. However, Maeda et al. does not state, as suggested by applicants, that particles below 0.5 microns are not useful as additives in coating materials.

Applicants also argue that they have demonstrated surprising results with respect to gloss. The Examiner has considered the showing pointed out by applicants but has not found them to be persuasive. First, the results in the specification are for one specific material rather than the broad category of polyesters that is now claimed. Second, comparisons are not with the applied art or with a material having a particle size of 0.5 microns. Third, criticality has not been demonstrated for applicants' end point. The controls were not comparable and not as close as the applied art. Fourth, a different technique was used to emulsify the comparisons (see Table 3). No reason was provided for this difference.

The examiner's statement that the end point of the reference values was 0.0501 microns appears to contain a typographical error. It should have read 0.5 microns. Table A is unpersuasive for reasons discussed above. Applicants' arguments on page 12 are directed to particles having bimodal size distribution. This is not what is claimed in claim 29. Claim 29 is broad enough to read on a monomodal system because it would permit monomodal particles to be broken down into different system components. For example, particles at 0.5 microns could be lessened and used to form a second system component leaving Maeda et al. with a bimodal component of particles less than 0.05 microns and greater than 0.05 microns. The examiner disagrees with the conclusions of Landry and Leon.

As previously stated, control examples C-1 and C-2 use particles that are emulsified by a different technique than applicants use for the examples representing the invention. A direct comparison cannot be made effectively. Next, Landry states that "the majority of our particles have a mean diameter less than 0.5 microns." However, claims 29, 30 and 31 depend from claim 21 and do not set forth percentages of particles below 0.5 microns. Claim 21 uses open claim language which reads on 1% or even less of the particles present being within the recited size range. Finally, Landry argues that Maeda et al. requires particles of mean diameter greater than 0.5, that Maeda et al. indicate a monomodal system, and that the reference does not have a majority of particles of less than 0.5 microns. Each of these statements is either incorrect or irrelevant to prosecution of the claims as drafted.

Leon's declaration is also unpersuasive. With respect to the obviousness of using small particles to enhance gloss, Leon makes several arguments. First is that the small particles are "more prone" to flocculation and that clusters of small particles impart features of larger particles. This argument actually supports the examiner's position that small particles permit the surface to be smoother and therefore, for the medium to have higher gloss. In addition, since small particles do not necessarily flocculate, this reason is unpersuasive. Next Leon argues large particles are "less prone" to mudcracking. Once again, since mudcracking does not necessarily occur with small particles the argument is unpersuasive. Finally, Leon argues that smaller particles often require more binder to be used and that this may decrease ink absorption. It is unclear from the Declaration how this impacts gloss.

Leon argues that Maeda et al. teaches away from particles of less than 0.5 microns. But Maeda et al. disclose particles of 0.5 microns explicitly and this size has not been patentably distinguished from <0.5 microns.

Leon also comments that the Examiner used calendaring as an example of a smoothing technique that is known in the art and that this could crush porous particles. This was mentioned by the examiner with respect to claim 48 to demonstrate that there are well known means to smooth the surface thereby increasing gloss. Calendaring was merely an example of one conventional means. Cast-coating is another technique that will smooth the surface without crushing pressure. These are all well known to those of ordinary skill in the art.

Leon also argues that one of ordinary skill in the art will not be able to calculate the acid number without knowing the extent of the formation reaction. The Examiner also will not be able to determine this property in any piece of prior art unless it is specifically set forth. That being said, reactions do not normally reach their theoretical maximum. One of ordinary skill in the art could run the reaction of the reference to determine the likely acid number. The examiner is not in a position to do this. Reliance on acid number for patentability is unpersuasive because it would have been obvious to one of ordinary skill in the art to control conventional reaction parameters such as temperature, pressure, time, and pH. See for example [0019] of the reference.

The examiner understands the meaning of "mode" but believes that applicants are reading the claims too narrowly. Neither claim 29 or 30 is "about our distribution as a whole." Claim 30 is not so limited and only refers to the particles of claim 21. If to

satisfy claim 30, Maeda et al. would have a CV of 0.3 to 3.0, or 30% to 300%, and Maeda et al. recite the value should be 30% or less, then the reference does not teach away as suggested by applicant. Instead, it teaches the value.


Finally, the examiner has not suggested taking a cut of Maeda's distribution. Division of particles into components can result in broadening rather than narrowing distributions of components.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela Schwartz whose telephone number is (571) 272-1528.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PRSchwartz
July 26, 2004


PAMELA R. SCHWARTZ
PRIMARY EXAMINER